

CLAIMS

What is claimed is:

1 1. A consumable component replenishment and maintenance
2 assistance system for a centralized network environment, comprising:
3 a computer network;
4 at least one computer peripheral device within the network and having
5 a consumable component;
6 a personal computer within the network and having a user interface
7 usable by a maintainer to maintain operation of the at least one computer
8 peripheral device; and
9 a server within the network and having a consumable component
10 consolidation program operative to monitor the at least one computer peripheral
11 device to identify a need to replenish a consumable component and/or perform
12 maintenance, and to notify a maintainer of the identified need by rendering
13 instructions that are sent to the maintainer at the personal computer.

1 2. The system of claim 1 wherein the consumable component
2 consolidation program is further operative to consolidate the identified need to
3 replenish the consumable component and/or perform maintenance for one or
4 more of the at least one computer peripheral device in the network environment.

1 3. The system of claim 1 further comprising another personal
2 computer and an electronic communication link signal coupling the another
3 personal computer with an external seller of a consumable component for one of
4 the at least one peripheral devices.

1 4. The system of claim 1 further comprising another personal
2 computer, wherein the another personal computer is operative to monitor the at
3 least one computer peripheral device to determine the state of a consumable for
4 each of the at least one computer peripheral devices, and notify a user via the
5 user interface of a need to replenish one or more consumables.

1 5. The system of claim 1 further comprising another personal
2 computer and another centralized server having a consumable re-order program
3 including instructions to send a consumable re-order notification to a
4 consumables purchaser at the another personal computer.

1 6. The system of claim 1 wherein the consumable component
2 comprises a first consumable component, and further comprising a second
3 consumable component unique from the first consumable component, wherein
4 the consolidation program monitors the at least one computer peripheral device
5 to identify when the second consumable component is near a threshold level
6 requiring replenishment and/or maintenance and the consolidation program
7 consolidates the need to replenish and/or perform maintenance on the first and
8 second consumable components.

1 7. The system of claim 6 wherein the first consumable component
2 resides on a first peripheral device, and the second consumable component
3 resides on a second peripheral device.

1 8. The system of claim 6 wherein the first consumable component
2 and the second consumable component reside on a common peripheral device.

1 9. The system of claim 6 wherein the server is operative to
2 automatically notify a maintainer of the consolidated need to replenish and/or
3 perform maintenance.

1 10. The system of claim 6 wherein the server is operative to
2 automatically notify a purchaser of the consolidated need to replenish and/or
3 perform maintenance.

1 11. The system of claim 6 wherein the consolidation program
2 generates a warning message indicating that the second consumable component
3 is near the threshold level.

1 12. The system of claim 1 wherein the centralized server comprises
2 an integrated web server operative to manage network peripheral devices.

1 13. The system of claim 1 wherein the consolidation program
2 includes a configurable threshold setting for the consumable component of the
3 peripheral device, wherein a user of the centralized server selectively configures
4 the threshold setting for the consumable component such that the identified
5 need to replenish the consumable component is triggered by the threshold
6 setting.

1 14. A consumable order assistance system for a computer
2 peripheral device within a centralized network environment, comprising:
3 a personal computer having a user interface;
4 a computer peripheral device including a consumable;
5 a centralized server having a consumable re-order program including
6 instructions to send a consumable re-order notification to a consumables
7 purchaser at the personal computer; and
8 a computer network interconnecting the personal computer, the
9 computer peripheral device, and the centralized server.

1 15. The consumable order assistance system of claim 14 further
2 comprising an electronic communication link signal coupling the personal
3 computer with a provider of the consumable for the peripheral device.

4 16. The consumable order assistance system of claim 14 wherein
5 the centralized server includes a consumable component consolidation program
6 for monitoring the at least one computer peripheral device to identify a need to

7 replenish a consumable component and/or perform maintenance, consolidating
8 the identified need to replenish the consumable component and/or perform
9 maintenance for one or more of the at least one computer peripheral device in
10 the network environment, and notifying a user of the consolidated, identified
11 need by rendering instructions that are sent to the user at the personal
12 computer.

1 17. The consumable order assistance system of claim 15 wherein
2 the consumable re-order program automatically initiates an order for
3 consumables in response to identifying a need to replenish a consumable
4 component.

1 18. The consumable order assistance system of claim 14 wherein
2 the electronic communication link comprises an e-mail system within the
3 network environment, wherein a list of consumables that need replacement are
4 sent to the personal computer via an e-mail message from the centralized
5 server.

1 19. The consumable order assistance system of claim 18 wherein
2 the e-mail message includes a hot link to a web site of consumable reseller
3 information.

1 20. The consumable order assistance system of claim 19 wherein
2 the hot link is to a web site that is configured to work with an internal customer
3 order system.

1 21. The consumable order assistance system of claim 19 wherein
2 the hot link is to a web site that is configured to work with an external web site
3 including a list of providers of the consumable.

1 22. The consumable order assistance system of claim 18 wherein
2 the e-mail system facilitates consumable ordering by a purchaser at the personal
3 computer.

1 23. A computer-implemented system which implements a program
2 in which consumable components of computer peripheral devices in a
3 centralized network system are replenished, the system comprising:

4 a monitoring system which identifies a need to replenish one or more
5 consumable components and/or perform maintenance for any one of a plurality
6 of unique computer peripheral devices within the network system;

7 a notification system which notifies a user of the identified need to
8 replenish components and/or perform maintenance; and

9 a consumable order placement system which generates an order with
10 a supplier of consumables in response to a user authorizing the order.

1 24. The computer-implemented system of claim 23 wherein the
2 monitoring system comprises a server, a peripheral device having one or more
3 consumable components, and a bi-directional communication link, wherein the
4 server polls or sets up the peripheral device to perform an internal check and
5 notifies the server when a need is determined to replenish one or more
6 consumable components and/or perform maintenance.

1 25. The computer-implemented system of claim 23 wherein the
2 notification system comprises a server, at least one client PC, and a
3 communication link provided between the server and the at least one client PC,
4 wherein the server generates and forwards a notification to a user at one of the
5 at least one client PC.

1 26. The computer-implemented system of claim 23 wherein the
2 consumable order placement system is resident on a central server within a
3 network environment having a plurality of PCs.

1 27. The computer-implemented system of claim 23 wherein the
2 consumable order placement system is resident on a PC within a network
3 environment having a central server.

1 28. The computer-implemented system of claim 23 further
2 comprising a consumable consolidation program for monitoring the at least one
3 computer peripheral device to identify any need to replenish consumable and/or
4 perform maintenance, consolidating the identified need to replenish consumables
5 and/or perform maintenance for one or more of the at least one computer
6 peripheral device in the network environment, and notifying a maintainer of the
7 consolidated, identified need by rendering instructions that are sent to the
8 maintainer at the personal computer.

1 29. The computer-implemented system of claim 28 wherein the
2 consumable consolidation program notifies the maintainer of the consolidated,
3 identified need by generating and forwarding an email to the maintainer that
4 indicates the consolidated, identified need.

1 30. The computer-implemented system of claim 29 wherein the
2 email comprises a notification that a printer needs replenishment of at least one
3 consumable and/or maintenance.

1 31. The computer-implemented system of claim 29 wherein the
2 email comprises a notification in the form of an itemized list that a plurality of
3 computer peripheral devices each needs replenishment of at least one
4 consumable and/or maintenance.

1 32. The computer-implemented system of claim 29 wherein the
2 consumable consolidation program notifies the maintainer of the consolidated,
3 identified need for a single computer peripheral device by consolidating the need

4 for a plurality of unique consumable components and notifying the maintainer of
5 the consolidated need for the single computer peripheral device.

1 33. The computer-implemented system of claim 23 wherein the
2 monitoring system comprises a centralized server communicating with the at
3 least one computer peripheral device and further operative to consolidate the
4 identified need to replenish one or more consumable components and/or perform
5 maintenance for one or more of the computer peripheral devices.

1 34. The computer-implemented system of claim 23 wherein the
2 notification system comprises an embedded web server within a computer
3 peripheral device and a centralized server communicating with the computer
4 peripheral device.

1 35. The computer-implemented system of claim 23 wherein the
2 notification system comprises a Legacy computer peripheral device and a
3 centralized server provided within the network, wherein the centralized server
4 periodically polls the Legacy device to obtain a status of the Legacy device
5 relating to status of a consumable component and/or a need to perform
6 maintenance on the Legacy device.

1 36. The computer-implemented system of claim 23 wherein the
2 consumable order placement system comprises a centralized server provided
3 within the network and communicating with a provider of consumables via the
4 Internet.

1 37. A method for replenishing consumable components of at least
2 one computer peripheral device within a centralized network, comprising:
3 providing a centralized server within the network communicating with
4 the at least one computer peripheral device;

5 identifying a need to replenish a consumable component and/or
6 perform maintenance for each of the at least one computer peripheral
7 components; and

8 consolidating the identified need to replenish the consumable
9 component or perform maintenance for one or more of the at least one
10 computer peripheral device in the network.

1 38. The method of claim 37 further comprising notifying a network
2 user of the consolidated, identified need by rendering and forwarding
3 instructions to the network user.

1 39. The method of claim 37 wherein the network user is a
2 maintainer interacting with the network at a personal computer.

1 40. The method of claim 37 wherein the network user is an end
2 user interacting with the network at a personal computer having a device status
3 interface.

1 41. The method of claim 37 wherein the network user is a
2 purchaser of consumables interacting with the network at a personal computer.

1 42. The method of claim 37 wherein identifying comprises
2 comparing a state of a consumable component with a predefined state, and
3 when the compared identified state corresponds with the predefined state,
4 generating an order request for the consumable for submission to a provider of
5 the consumable via a communication link.

1 43. The method of claim 42 wherein the communication link
2 comprises the Internet.

- 1 44. The method of claim 37 wherein identifying a need comprises
2 receiving a warning notification from a computer peripheral device that the
3 computer peripheral device is down or is about to go down.

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